Medicinski fakultet u Rijeci

IZVEDBENI NASTAVNI PLAN
2023/2024

Za kolegij

Cell Growth and Cell Cycle Regulation in Physiological and Pathological Conditions

Studij:	**Medical Studies in English (R)** (izborni) Sveučilišni integrirani prijediplomski i diplomski studij
Katedra:	**Zavod za molekularnu medicinu i biotehnologiju**
Nositelj kolegija:	**prof. dr. sc. Volarević Siniša, dr. med.**
Godina studija:	**3**
ECTS:	**1.50**
Stimulativni ECTS:	**0.00 (0.00%)**
Strani jezik:	**Mogućnost izvođenja na stranom jeziku**

Podaci o kolegiju:

Cancer pathogenesis involves the dysregulation of several cellular processes, including cell growth and division. The course aims to explain the differences in cell growth and cell cycle regulation between normal and cancerous cells to the students. Students will also be informed about the implications of this knowledge for developing novel diagnostic and prognostic biomarkers for cancer and personalized anti-cancer treatments.

Popis obvezne ispitne literature:

Lodish H., Berk A.,Zipursky S.L., Matsudaira P., Baltimore D., Darnell J.E. (1999) Molecular Cell Biology. 4th edition, W H Freeman & Co (Poglavlja 20 i 24)

Popis dopunske literature:

1. Alberts B., Bray D., Lewis J., Raff M., Roberts K.,Watson J.D. (1994) Molecular Biology of the Cell. 3rd edition, Garland Publishing, Inc., New York & London (Poglavlja 15 i 17)
2. Veliki broj originalnih i preglednih članaka

Nastavni plan:

Seminari popis (s naslovima i pojašnjenjem):

A short review of the hallmarks of cancer

Cell growth and division.

Definition of cell growth and cell division.

Cell growth and cell division.

PI3K-TOR signal pathway (1. part)

PI3K-TOR signal pathway (1. part)

PI3K-TOR signal pathway (2. part)

PI3K-TOR signal pathway (2. part)

Signaling pathways involved in cell growth and cell cycle regulation (1. part)

Signaling pathways involved in cell growth and cell cycle regulation (1. part)

Signaling pathways involved in cell growth and cell cycle regulation (2. part)

Signaling pathways involved in cell growth and cell cycle regulation (2. part)

Molecular mechanisms of cell growth

Molecular mechanisms of cell growth .

Regulators of cell cycle (1. part)

Regulators of cell cycle (1 part).

Regulators of cell cycle (2 part)

Regulators of cell cycle (2 part).

Cell cycle checkpoints

Cell cycle checkpoints

Abnormalities of cell growth and cell cycle in cancer

Abnormalities of cell growth and cell cycle in cancer.

Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer

Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer.

Obveze studenata:

Student course attendance, course preparation (assigned reading), and exam are obligatory.

Ispit (način polaganja ispita, opis pisanog/usmenog/praktičnog dijela ispita, način bodovanja, kriterij ocjenjivanja):

Evaluation would be performed according to the actual Rules on studies of the University of Rijeka (approved by the Senat) and the Faculty of Medicine (approved by the Faculty council). In this system, the overall students' outcome is made up of 70% of their achievement during the course itself and 30% of their success in the final exam. The oral presentation of a particular segment of the course content is an obligatory part of the final exam.

Ostale napomene (vezane uz kolegij) važne za studente:

Course content:

1. A short review of the hallmarks of cancer

2. Definition of cell growth and cell division

3. Growth factor receptors

4. Signaling pathways involved in cell growth and cell cycle regulation

5. Molecular mechanisms of cell growth

6. Regulators of cell cycle

7. Cell cycle checkpoints

8. Abnormalities of cell growth and cell cycle in cancer

9. Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer

SATNICA IZVOĐENJA NASTAVE 2023/2024

Cell Growth and Cell Cycle Regulation in Physiological and Pathological Conditions

Seminari (mjesto i vrijeme / grupa)
11.01.2024
A short review of the hallmarks of cancer: • P04 (16:15 - 18:30) [154]   ◦ CGCCR
prof. dr. sc. Volarević Siniša, dr. med. [154]
17.01.2024
Definition of cell growth and cell division.: • P02 (14:30 - 15:45) [154]   ◦ CGCCR
prof. dr. sc. Volarević Siniša, dr. med. [154]
18.01.2024

PI3K-TOR signal pathway (1. part):
• P04 (16:15 - 19:15) [154]
  ◦ CGCCR
 	
PI3K-TOR signal pathway (2. part):
• P04 (16:15 - 19:15) [154]
  ◦ CGCCR

prof. dr. sc. Volarević Siniša, dr. med. [154]
23.01.2024

Signaling pathways involved in cell growth and cell cycle regulation (1. part):
• Zavod za molekularnu medicinu i biotehnologiju - biblioteka (12:00 - 19:16) [154]
  ◦ CGCCR
 	
Signaling pathways involved in cell growth and cell cycle regulation (2. part):
• Zavod za molekularnu medicinu i biotehnologiju - biblioteka (12:00 - 19:16) [154]
  ◦ CGCCR
 	
Molecular mechanisms of cell growth:
• Zavod za molekularnu medicinu i biotehnologiju - biblioteka (12:00 - 19:16) [154]
  ◦ CGCCR
 	
Regulators of cell cycle (1. part):
• Zavod za molekularnu medicinu i biotehnologiju - biblioteka (12:00 - 19:16) [154]
  ◦ CGCCR
 	
Regulators of cell cycle (2 part):
• Zavod za molekularnu medicinu i biotehnologiju - biblioteka (12:00 - 19:16) [154]
  ◦ CGCCR

prof. dr. sc. Volarević Siniša, dr. med. [154]
24.01.2024
Cell cycle checkpoints: • P05 (14:30 - 15:45) [154]   ◦ CGCCR
prof. dr. sc. Volarević Siniša, dr. med. [154]
25.01.2024

Abnormalities of cell growth and cell cycle in cancer:
• P04 (16:15 - 18:30) [154]
  ◦ CGCCR
 	
Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer:
• P04 (16:15 - 18:30) [154]
  ◦ CGCCR

prof. dr. sc. Volarević Siniša, dr. med. [154]

Popis predavanja, seminara i vježbi:

SEMINARI (TEMA)	Broj sati	Mjesto održavanja
A short review of the hallmarks of cancer	3	P04
Definition of cell growth and cell division.	2	P02
PI3K-TOR signal pathway (1. part)	2	P04
PI3K-TOR signal pathway (2. part)	2	P04
Signaling pathways involved in cell growth and cell cycle regulation (1. part)	2	Zavod za molekularnu medicinu i biotehnologiju - biblioteka
Signaling pathways involved in cell growth and cell cycle regulation (2. part)	2	Zavod za molekularnu medicinu i biotehnologiju - biblioteka
Molecular mechanisms of cell growth	2	Zavod za molekularnu medicinu i biotehnologiju - biblioteka
Regulators of cell cycle (1. part)	2	Zavod za molekularnu medicinu i biotehnologiju - biblioteka
Regulators of cell cycle (2 part)	2	Zavod za molekularnu medicinu i biotehnologiju - biblioteka
Cell cycle checkpoints	2	P05
Abnormalities of cell growth and cell cycle in cancer	2	P04
Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer	2	P04

ISPITNI TERMINI (završni ispit):